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(62) Document number(s) of the earlier application(s) in
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(54) **Electrocardiograph**

(57) Apparatus for monitoring a fetal heart-beat extracts one or more fetal electrocardiograms (fECGs) from a composite signal detected at the abdomen of a pregnant woman. The apparatus includes specific low-noise components: a plurality of low-noise electrodes (1 - 3, R) for placement on the abdomen during pregnancy and a low-noise signal recording and processing means (34). Screened leads are also used, as required. Signals in-

dicative of voltages developed between each abdominal electrode (1 - 3) and a reference electrode (R) are recorded in multiple signal channels. Data within each channel is digitised and processed in order to generate separated source signals, at least one of which relates to the fECG of a single fetus. Single-channel fECGs may be reconstructed using the source signals identified as belonging to the same fetus.

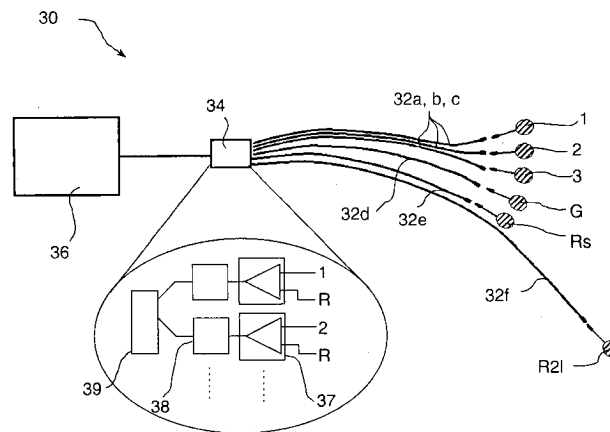


Figure 3

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EUROPEAN SEARCH REPORT

Application Number
EP 06 00 7088

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 26 July 2010	Examiner Kurze, Volker
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EUROPEAN SEARCH REPORT

Application Number
EP 06 00 7088

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	LIANG H: "Adaptive independent component analysis of multichannel electrogastrograms" MEDICAL ENGINEERING & PHYSICS, vol. 23, no. 2, March 2001 (2001-03), pages 91-97, XP002234359 * the whole document * -----	1-26	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 26 July 2010	Examiner Kurze, Volker
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503, 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-07-2010

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	心电图		
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[标]申请(专利权)人(译)	秦内蒂克有限公司		
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[标]发明人	SMITH MARK JOHN PENNEY RICHARD WILLIAM		
发明人	SMITH, MARK JOHN PENNEY, RICHARD WILLIAM		
IPC分类号	A61B5/0444 A61B5/00 A61B5/05 A61B5/0402 A61B5/0408 A61B5/0428 A61B5/0472 A61B5/0476 A61B5/0478 A61B5/0492		
CPC分类号	A61B5/4362 A61B5/0006 A61B5/0011 A61B5/0444		
优先权	2001023772 2001-10-03 GB		
其他公开文献	EP1700564A2		
外部链接	Espacenet		

摘要(译)

用于监测胎儿心跳的装置从在孕妇腹部检测到的复合信号中提取一个或多个胎儿心电图 (fECG)。该装置包括特定的低噪声部件：用于在怀孕期间放置在腹部上的多个低噪声电极 (1-3, R) 和低噪声信号记录和处理装置 (34)。根据需要，还使用屏蔽引线。指示在每个腹部电极 (1-3) 和参考电极 (R) 之间产生的电压的信号记录在多个信号通道中。对每个通道内的数据进行数字化和处理，以产生分离的源信号，其中至少一个信号与单个胎儿的fECG有关。可以使用被识别为属于同一胎儿的源信号来重建单通道fECG。

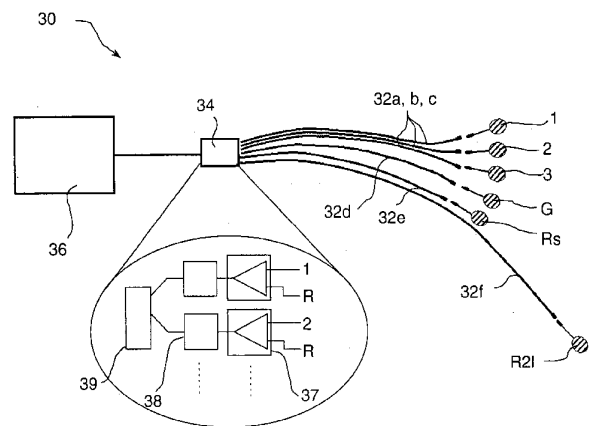


Figure 3